



[7590-01-P]

## **NUCLEAR REGULATORY COMMISSION**

**[Docket No. No. 50-134; NRC-2010-0053]**

### **Worcester Polytechnic Institute's Leslie C. Wilbur Nuclear Reactor Facility**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** License termination; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is noticing the termination of Facility Operating License No. R-61 for the Leslie C. Wilbur Nuclear Reactor Facility (LCWNRF). The NRC has terminated the license of the decommissioned LCWNRF at the Worcester Polytechnic Institute (WPI or the licensee) in Worcester, Massachusetts, and has released the site for unrestricted use.

**DATES:** Notice of termination of Facility Operating License No. R-61 given on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** Please refer to Docket ID NRC-2010-0053 when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2010-0053. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in the SUPPLEMENTARY INFORMATION section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Theodore Smith, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington D.C. 20555-0001; telephone: 301-415-6721; e-mail: [Theodore.Smith@nrc.gov](mailto:Theodore.Smith@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

The LCWNRF provided graduate and undergraduate students with reactor operating experience and experimental practice in the fields of nuclear engineering, metallurgy, chemistry, and physics, as well as irradiation services for other teaching, medical, and industrial institutions. The licensee ceased operation of the facility on June 30, 2007. The reactor fuel was removed in July 2011, with the fuel being delivered to the University of Massachusetts Lowell. The LCWNRF underwent decommissioning activities in late 2012, followed by Final Status Surveys (FSS) in the fall of 2013 to assess the final radiological status of the facility.

The licensee submitted a Decommissioning Plan (DP) dated March 31, 2009 (ADAMS Accession No. ML090960651), for NRC approval. The NRC requested additional information for its review of the DP by letter dated June 23, 2009 (ADAMS Package Accession No. ML091730007), and the licensee responded to that request with a revised DP on September 30, 2009 (ADAMS Accession No. ML092880231). The NRC approved the revised WPI DP by Amendment No. 12 to License R-61, dated March 29, 2011 (ADAMS Package Accession No. ML103120030).

As required by the WPI DP, the WPI submitted a Final Status Survey Plan (FSSP), dated January 31, 2013 (ADAMS Package Accession No. ML130460119), as a supplement to the DP. By letter dated June 11, 2013 (ADAMS Accession No. ML13156A041), the NRC reviewed the survey plan and determined that it was consistent with the guidance in NUREG-1757, "Consolidated Decommissioning Guidance" (ADAMS Accession No. ML063000243), and NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual" (ADAMS Accession No. ML082470583).

On March 5, 2014, the WPI submitted its Final Status Survey Report (FSSR) (ADAMS Package Accession No. ML14080A176) and requested termination of the LCWNR license. The report demonstrates that the criteria for termination set forth in WPI's license (R-61), and as established in its DP and FSSP, have been satisfied. The FSSP indicates that all individual radiological measurement determinations made throughout the facility for surface contamination (both total and removable) were found to be less than the criteria established in the DP. Similarly, sample results from concrete, metallic liners, soil, and sediments were found to be less than the volumetric radionuclide concentration criteria established in the DP. Additionally, all the radioactive wastes have been removed from the facility, and documentation regarding its removal disposition is provided in the FSSR. As such, the NRC staff has determined that the

survey results in the report comply with the criteria in the NRC approved DP and the release criteria in subpart E of part 20 of Title 10 of the *Code of Federal Regulations* (10 CFR).

On July 11-12, 2012, May 2-3, 2013 (ADAMS Accession No. ML13161A084), and August 22, 2013 (ADAMS Package Accession No. ML14024A421), Region 1 of the NRC conducted safety inspections at the LCWNRF. The inspections were an examination of WPI's licensed activities as they relate to radiation safety and to compliance with the Commission's regulations and the license conditions, including the DP and FSSP. The inspections consisted of observations by the inspectors, interviews with personnel, and a review of procedures and records and acquisition of split samples. No health and safety concerns were identified during these inspections. The samples, consisting of concrete cores and sediments collected during the inspections, were sent to Oak Ridge Associated Universities (ORAU) for analysis. The ORAU provided the results of the sample analysis in a report dated October 7, 2013 (ADAMS Accession No. ML13309B020). The ORAU analyzed the samples for Cobalt-60, Europium-152, Europium-154, and Cesium-137. The report showed that results of all samples were found to be less than the volumetric radionuclide concentration criteria established in the DP.

Based on observations during NRC inspections, decommissioning activities have been carried out by the WPI in accordance with the LCWNRF DP. Additionally, NRC staff have evaluated the WPI FSSR and conducted independent confirmatory surveys. All FSSR measurements were found to be less than the DP FSSP criteria, and NRC's analytical results from independent confirmatory surveys were consistent with the WPI FSSR results. Therefore, the NRC staff has concluded that the WPI LCWNRF has completed decommissioning in accordance with the approved DP. Additionally, the NRC staff determined in its March 29, 2011, letter that DP FSS criteria would provide residual radioactivity that will not exceed 25 millirem (0.25 milliSievert) per year, and that doses would be reduced to levels as low as reasonably achievable, consistent with the release criteria in subpart E of 10 CFR part 20.

Therefore, NRC evaluation of the WPI LCWNRF FSSR, DP, and associated documentation has determined that the facilities and site are suitable for unrestricted release in accordance with the criteria for license termination in 10 CFR part 20, subpart E.

Therefore, pursuant to 10 CFR 50.82(b)(6), the WPI LCWNRF in Worcester, Massachusetts, has completed decommissioning and Facility Operating License No. R-61 is terminated.

Dated at Rockville, Maryland, this 25<sup>th</sup> day of November 2014.

For the Nuclear Regulatory Commission.

Andrew Persinko, Deputy Director,  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs,  
Office of Nuclear Material Safety and Safeguards.

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